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Original Research Article

Dietary preferences and traditional practices according to the desired gender of the baby among pregnant women in South Eastern Turkey

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ABSTRACT

Background: Superstition and traditional practices regarding pregnancy exist in various cultures around the world and are passed down from generation to generation. As a result of the literature review, it was observed that there weren't prospective and cross-sectional studies involving traditional practices and dietary preferences of pregnant women before and after determining the gender according to the gender of the baby they want. The purpose of this study was to determine dietary preferences, superstitions and traditional practices before and after determining the gender of the baby according to the desired gender of the baby among pregnant women.
Methods: The research was a descriptive cross-sectional study and adopted the pretest-posttest research design. As the data collection tool, both investigators-designed questionnaire forms and the non-functional beliefs and practices scale (NFBPS) related to pregnancy to the same pregnant women were applied before and after the determination of baby gender in the first and second trimesters respectively.
Results: The study found that 85% of the pregnant women thought that dietary preferences during pregnancy have an impact on the gender of the true baby. The results showed that superstitions and traditional practices were known and practiced by pregnant women at a young age, uneducated, living in the province and having a large family type ($p<0.05$).
Conclusions: Health professionals, should pay attention to less educated, younger pregnant women to reinforce positive cultural health practices, discourage to them from using harmful ones superstition and traditional practice by providing non-critical scientific explanations.

Keywords: Desired gender, Dietary in pregnancy, Nursing, Predicting the gender, Traditional beliefs, Traditional practices,

INTRODUCTION

Traditional beliefs and practices of people are part of society's culture.[1-4] Pregnancy period is a process that traditional beliefs and practices are frequently used.[5-7] Predicting the gender of a baby is one of the traditional practices adopted by societies. Throughout history, people have tried to predict the gender of the baby, looking at the women's appearance in pregnancy, her behavior, the baby's posture in the womb, her movements, maternal intuition, with the help of magical and mystical symbols.[6-8]

Many people make a connection between the gender of the baby and the things which women look at, eat or do during their pregnancy. It is among the most common superstitions that baby will resemble the person that the mother looked at when the baby moves for the first time

in the mother belly especially it is believed that foods to which mother is craving will indicate the gender of baby. It is believed that the baby will be a boy if the women has a "pointed" belly or craves for sweets, and will be a girl if the women has a "round belly" and craves for sour and spicy foods.[9-12] The traditional practices exercised during the pregnancy might be harmful to health and can delay early treatment, and this situation might create direct or indirect impacts on the mother and fetus.[13-18]

The healthy dietary of the mother during pregnancy is a crucial issue both for the growth and development of the fetus and for the health of the mother in this period. In this period, inadequate and unbalanced dietary of the mother, food taboos and cultural beliefs their food preferences during pregnancy may affect the baby's height, weight, physiological structure and mental development negatively.[15-17] The study conducted by Chakona and Shackleton (2019) reported that 37% of the pregnant women one or more food practices shaped by local cultural taboos or beliefs. The most commonly avoided foods were meat products, fish, potatoes, fruits, beans, eggs, butternut and pumpkin, which are rich in essential micronutrients, protein and carbohydrates.[17] Particularly, in the first trimester pregnant women, in which the brain structure of the baby is shaped, unhealthy and unbalanced dietary might cause permanent retardation in a baby's mental development.[12-14,18]

Health care professionals should be particularly careful about the reflections of the cultural beliefs and practices on human health. Such kind of an approach is also important for supporting beneficial practices and include in them in health and preventing the negative impacts of harmful practices on health.[14-18] Pregnant women and their spouses should be evaluated by health care professionals in terms of their gender preferences and beliefs during the antenatal follow-ups.

Monitoring the reactions of parents who gave birth to a baby of the non-desired gender in the post-partum period may help to prevent the development of depressions in women who negative changes in self-respect and self-care practices of pregnant women are prevented; and thus, potential problems that may arise due to the beliefs of women that they can have a baby of the desired gender with the help of traditional practices, they may condition their minds in this way and develop psychological problems if their expectations are not realized and by this means of postpartum depression can be prevented.[14-20]

Previous research studies include a limited number of prospective and cross-sectional studies that have focused on how pregnant women are make dietary preferences based on the gender of the baby before and after the identification of the gender, whether they make changes in their dietary preferences according to the desired gender of the baby and what kind of traditional practices they exercised to have a baby of the desired gender. This research was carried out to determine how pregnant women regulated their diets and performed traditional practices according to the desired gender of the baby.

METHODS

Ethical responsibility

Ethics committee approval was obtained from Gaziantep University Clinical Research Ethics Committee before starting the research. The institutional approval was received from Gaziantep University Sahinbey Research and Practice Hospital chief physician. The pregnant women participated in the study voluntarily and their verbal and written consents were received after the purpose of the study was explained to the participants.

Design of the study and the sample

This research was designed as a descriptive and cross-sectional study and conducted in two phases, as pre-test and post-test performed in the first and second trimesters of the pregnancy. The population of the study consisted of 3396 pregnant women 19 years old and over who applied to the department of obstetrics and gynecology of Gaziantep University Hospital, Turkey between the dates of October 15th, 2017 and October 15th, 2018. In order to calculate the number of pregnant women forming the sample, the sample calculation method was used based on known universe and the frequency of the traditional method used in pregnancy. In addition, the community parameter in the Erbil and Saglam (2010) study was based on and the number of samples was calculated as 313 pregnant women.[9] The study was conducted between the dates of October 15th, 2018 and October 15th, 2019. We specified a margin of error of 5% (α=0.05) and 90% confidence level (β=0.10 for power), where we assumed that the actual population mean falls within the confidence interval. We then used a standard deviation of 0.5, which showed the expected variance of responses.

Inclusion criteria

To be 19 years old and above pregnant, to be in the first trimester of the pregnancy, the gender of the fetus should not be identified during the pregnancy, not having a chronic illness, not having a multiple pregnancies, not experiencing a risky pregnancy.

Exclusion criteria

To be pregnant under 19, not to be in the first trimester of the pregnancy, the gender of the fetus be identified during the pregnancy, having a chronic illness, having a multiple pregnancies, having a risky pregnancy, those who were not willing to participate in the study.

Data collection tools

This study employed a survey form and the non-functional beliefs and practices scale (NFBPS). The

implementation of the data collection tools lasted nearly 20 minutes. The data collection tools were filled by the researchers using the face-to-face interview method.

Survey form

The survey form which was prepared by the created by researchers through a literature review consists of 2 sections and 48 questions. The first section includes 19 questions related to the socio-demographic (7 questions) and obstetric features (12 questions) and 16 questions related to the gender of the baby, traditional practices, dietary, and vaccination. These questions also include information on the identification of the perspective of the parents towards the gender of the baby, traditional beliefs and practices towards identifying the gender of the baby during pregnancy, and the dietary preferences according to the desired gender of the baby. The first section of the survey form was implemented with the participation of pregnant women before the identification of gender. The second section was implemented with the participation of the same pregnant women after the identification of the gender. The survey questions in the second section includes 13 questions in total related to whether there is a change in the dietary preferences.

Nonfunctional beliefs and practices scale (NFBPS)

The validity and reliability study of the scale in the Turkish language was conducted by Yalcın in 2012. The scale is used for determining the information and beliefs of pregnant women regarding the nonfunctional beliefs and practices and includes 23 questions on pregnant women's status of questioning nonfunctional practices regarding pregnancy, 8 questions on questioning nonfunctional practices regarding childbirth, 9 questions regarding questioning nonfunctional practices on puerperality and 18 questions regarding questioning nonfunctional practices on infant care. The Cronbach alpha reliability coefficient of the sub-dimension of the NFBPS "nonfunctional beliefs and practices regarding pregnancy" was found as 0.89, and in this study, the Cronbach alpha reliability coefficient of the scale was found to be 0.94 for pre-test and post-test. The Cronbach alpha reliability coefficient of the sub-dimension of the NFBPS "nonfunctional practices beliefs and practices regarding childbirth" was found as 0.87; the "nonfunctional beliefs and practices regarding puerperality" was found as 0.87, and the "nonfunctional beliefs and practices regarding infant care" was found as 0.86. The percentage of the scale to explain the total variance towards measuring the four factors (pregnancy, childbirth, puerperality, and infant care) was found as 49% and the Cronbach alpha reliability coefficient was 0.87. The scale was designed as a Likert type scale that has a grading system from 1 to 5. The scoring of the scale ranges from "totally agree" 1 point to "absolutely disagree" 5 points. Receiving a higher score from the scale shows that the women has misconceptions and misbeliefs regarding nonfunctional practices, and receiving lower scores from the scale shows that the women has more healthy and conscious knowledge regarding non-functional practices. The lowest score that can be received from the scale is 58, and the highest score in 290.2 In the context of this research study, the nonfunctional beliefs and practices scale (NFBPS) was implemented two times with the participation of pregnant women; before the identification of the baby's gender in the first trimester, and after the identification of the baby's gender in the second trimester.

Statistical analysis

The SPSS 24 statistical package program was employed in the data analysis. In the evaluation of the data, in addition to descriptive statistical methods (e.g., percentage, frequency, mean, and standard deviation) and Student's t test were used in the comparison of the qualitative data. ANOVA test was used to determine whether there was a statistically significant difference in terms of birthplace, education level, gestational week and the desired gender with pre-test and post-test the average scores of the NFBPS. Tukey test was used to determine the reason for the statistically significant difference in terms of birthplace, education level, gestational week and desired gender with the pre-test and post-test the average scores of the NFBPS. Covariance (ANCOVA) test was used to determine the effect of the NFBPS related to pregnancy on the post-test score of the first test scores according to whether pregnancy is planned and the desired gender in pregnancy. Cronbach's Alpha Coefficient was calculated to ensure the reliability of the study. A value of $p<0.05$ was considered statistically significant.

RESULTS

The results of this prospective study which aimed to identify the regulation of dietary of pregnant women based the desired gender of the baby and their status of exercising traditional beliefs and practices are given in Table 1. It was examined the socio-demographic and fertility-related data of the pregnant women. According to Table 1, 51.8% (n=162) of the pregnant women were 27 years old and below, the mean age of the women was 27.85±5.2, 44.4% (n=139) of them were born in the center of the province, 40.3% (n=126) of them completed secondary education, and 87.2% (n=273) of the women were housewives (Table 1).

In this study, the data on the traditional practices and dietary preferences of the pregnant women before identify the gender of the baby. According to the data, 55.3% (n=173) of them the desired to have a boy baby. The data show that 79.6% (n=249) of the pregnant women had traditional beliefs and practices to predict the gender of the baby. The traditional beliefs and practices of the pregnant women revealed that; 50% (n=157) of them believed that "eating sour foods refers to a girl and eating sweet foods refers to a boy". The findings revealed that

87.5% (n=274) of the pregnant women believed that the traditional practices were accurate and effective. According to the findings, 81.2% (n=254) of the women before the pregnancy the time of exercising the traditional practice towards predicting the gender of the baby (Table 2).

Table 1: Data on socio-demographic and fertility related features (n=313).

Categorical variables	N	%
Age		
27 years old and below	162	51.8
28 years old and above	151	48.2
Place of birth		
Province	139	44.4
Sub-province	131	41.9
Village	43	13.7
Level of education		
Illiterate	6	1.9
Literate	15	4.8
Primary school graduate	52	16.6
Secondary school graduate	126	40.3
High school graduate	82	26.2
Upper secondary education and above	32	10.2
Profession		
Worker	10	3.2
Self-employed	9	2.9
Civil servant	21	6.7
Housewife	273	87.2
Planning status this pregnancy		
Yes	205	66
No	108	35
Number of daughters		
None	158	52
1	94	31
2	36	12
3	13	1.7
4	12	3.9
Number of sons		
None	170	56
1	99	33
2	32	11
3	12	1.3

In this study, the post-test the average score was found higher than the pre-test the average score and the given situation implied that the NFBPS attitude increased in the later phases of the pregnancy, and accordingly, the women had misconceptions and misbeliefs regarding nonfunctional practices. Furthermore, the correlation coefficient between these two variables was r=0.907 and it was statistically significant. According to the results of the analysis, there was a positive and strong linear relationship between the pre-test and post-test scores. The Cronbach alpha coefficient of the sub-dimension of the NFBPS related to pregnancy was found result as 0.94 in the study was quite high (Table 3).

Table 2: Data on pregnant women's traditional beliefs and practices before identify the gender of the baby (n=313).

Characteristics of pregnant women regarding traditional beliefs and practices before the identify the gender of the baby	N	%
The desired gender of the baby in the current pregnancy		
Girl	72	23
Boy	173	55.3
No difference	68	21.7
Status of exercising traditional beliefs and practices to predict and identify the gender of the baby		
Yes	249	79.6
No	64	20.4
The types of traditional beliefs and practices for identifying the gender of the baby		
Eating sour food during the pregnancy refers to a girl and eating sweet food refers to a boy	157	50
Eating sour food during the pregnancy refers to a boy and eating sweet food refers to a boy	11	17.2
Feeling nausea during pregnancy shows that the baby will be a girl	6	9.4
Pointed belly refers to a boy and a round belly refers to a girl	4	6.3
Believing in Muslim preachers	6	9.4
Predicting the gender through dreams and shape of the body	2	3.1
Predicting the gender by putting a knife under a pillow and throwing the wedding ring into the water	3	4.7
Traditional practices exercised during the current pregnancy to predict the gender of the baby		
Eating sweet food	161	51.4
Squeezing lemon to make the baby's eyes shinier	4	1.2
Believing in dreams	65	20.7
Believing in Muslim preachers	83	26.5
The status of believing that the traditional practices are accurate and effective		
Yes	274	87.5
No	39	12.5
The time of exercising the traditional practice to predict the gender		
No knowledge	8	2.6
Before the pregnancy	254	81.2
During the pregnancy	51	16.3

The findings revealed that there was a statistically significant difference between the pre-test and post-test

the average scores in terms of the place of birth variable, of the level of education variable, of the desired gender of the baby ($p<0.05$) (Table 4).

Table 3: The relationship between the pre-test and post-test scores of non-functional practices sub-dimension related to the pregnancy of "the nonfunctional beliefs and practices scale".

The non-functional practices related to the pregnancy sub-dimension	N	Mean	SD	t value	P value	Cronbach's alpha
Pre-test	313	2.48	0.8	-7.195	0.000	0.943
Post-test	313	2.64	0.6			0.944

Table 4: Examination of pre-test and post-test scores of the NFBPS in terms of more than two categorical variables.

			N=313	Mean	SD	F *	p	Tukey test
Place of Birth	Province		139	2.45	0.94	9.324	0.001	Village and province
	Sub-province		131	2.35	0.74			Village and sub-province
Pre-test	Village		43	2.99	0.93			
Post-test	Province		139	2.61	0.67	6.544	0.002	Village and province
	Sub-province		131	2.56	0.65			Village and sub-province
	Village		43	2.97	0.65			
Level of Education	Not graduated		21	2.71	0.74	6.718	0.001	Upper secondary education and above and no graduation
Pre-test	Primary school graduate		52	2.73	0.8			Upper secondary education and primary school graduate
	Secondary school graduate		126	2.46	0.93			Upper secondary education and secondary school graduate
	High school graduate		82	2.56	0.84			Upper secondary education and high school graduate
Level of education	Not graduated		21	2.79	0.41	8.191	0.001	Upper secondary education and above and no graduation
Post-test	Primary school graduate		52	2.93	0.48			Upper secondary education and primary school graduate
	Secondary school graduate		126	2.61	0.69			Upper secondary education and secondary school graduate
	High school graduate		82	2.67	0.69			Upper secondary education and high school graduate
	Upper secondary education and above		32	2.12	0.69			
Desired gender of the baby in the current pregnancy	Pre-test	Girl	72	2.41	0.894	4.066	0.018	Boy and girl
		Boy	173	2.36	0.902			
		Gender makes no difference	68	2.59	0.857			
	Post-test	Girl	72	2.48	0.622	2.896	0.057	
		Boy	173	2.56	0.743			
		Gender makes no difference	68	2.77	0.651			

The results of the test showed that there was a statistically significant difference between the pre-test and post-test score the averages in terms of the age group, social security, the status of having traditional beliefs to identify and predict the gender of the baby, status of exercising traditional practices, status of believing that dietary preferences in pregnancy have an impact on the gender of the baby ($p<0.05$) (Table 5).

Table 5: Examination of pre-test and post-test scores of the NFBPS related to the pregnancy in terms of binary variables (n=313).

Binary variables			N	Mean	SD	t*	P
Age groups	Pre-test	27 years old and below	162	2.38	0.84	-2.008	0.046
		28years old and above	151	2.58	0.91		
	Post-test	27 years old and below	162	2.54	0.62	-2.797	0.005
		28 years old and above	151	2.75	0.70		
Status of having traditional beliefs to predict and identify the gender of the baby	Pre-test	Yes	64	2.84	0.65	3.688	0.000
		No	249	2.39	0.91		
	Post-test	Yes	64	2.94	0.51	4.113	0.000
		No	249	2.56	0.68		
Status of exercising traditional beliefs to predict the gender of the baby	Pre-test	Yes	15	3.18	0.49	3.210	0.001
		No	298	2.44	0.88		
	Post-test	Yes	15	3.23	0.35		
		No	298	2.61	0.67		

DISCUSSION

The thought/desire of predicting the gender of the fetus during the pregnancy and to have a baby of a desired gender is an issue of the past and present which attracts great attention of the families. This desire led people to develop various beliefs among the public. There are several beliefs in the society which are non-scientific, yet commonly used for determining the gender of the fetus. In the literature, such beliefs are defined as non-functional beliefs and practices.[21,22] The impacts of these practices on human health should be taken into the account as some of the traditional practices exercised during the pregnancy might cause harm on health, delay early diagnosis and treatment, directly and indirectly impact the life of the mother and fetus negatively.[2,3,13,14,25-28]

Looking at the research done in our country this ratio was determined as 16.1% in the study of Erbil and Saglam; as 53.4% in the study of Isık et al; and as 33.7% in the study of Calbayram et al.[9,25,26] The findings of this study are similar to the findings of the previous studies.[8,23,24]

The traditional beliefs and practices of the pregnant women revealed that; 50% (n=157) of them believed that "eating sour foods refers to a girl and eating sweet foods refers to a boy". The study conducted by Erbil and Saglam reported that 16.1% of the women had traditional beliefs and practices to identify the gender of the baby, 34% of them exercised traditional practices, and 7.1% of the women who exercise these practices chose a method which has a negative impact on health. The findings of the same study also showed that 28.3% of the women believed in the effectiveness and accuracy of these practices, and the most common practices included the scissors-knife method and the ring method, which was an interesting finding of the study.[9]

In NFBPS, a high mean scale score implies that the women has misconceptions and misbeliefs about nonfunctional practices, and a lower the average score implies that the women is more conscious and has healthier information. In this study, the post-test the average score was higher than the pre-test the average score; and these findings showed that the NFBPS attitude towards pregnancy increased in the advancing phases of the pregnancy, and therefore the women had misconceptions and misbeliefs regarding nonfunctional beliefs and practices in their current pregnancy, before and after the identification of the gender. The studies conducted by Yalcın and Kocak also reported similar results.[2]

In the study, a statistically significant difference was found between the pre-test and post-test the average scores in terms of the place of birth variable ($p<0.05$), and the source of the difference was caused by the fact that the participants who were born in a village had higher scores. The study conducted by Erbil and Saglam reported a positive and weak correlation between exercising traditional practices during pregnancy and the place of residence ($r=149$, $p=0.044$).[9]

In the study, a statistically significant difference was found between the pre-test and post-test the average scores in terms of the level of education variable ($p<0.05$). The previous studies reported that an increasing level of education leads to a decrease in believing in the 'evil eye' and food cravings; and at the same time leads to an increase in the belief that dietary may have an impact on the mental and physical development of the baby.[13,25,26,33]

In the study, a statistically significant difference was found between the pre-test the average scores in terms of the desired gender of the baby variable ($p<0.05$) before the identification of the gender (1st trimester), and the source of the difference was caused by the fact that the participants who preferred to have a boy also had a higher mean pre-test score. As mentioned in the study of Erbil and Saglam, the study conducted by Gol found that such

kinds of practices are exercised more frequently by women who desired to have a boy. [9,32,33]

The limitation of this study is that it was conducted in a single center in Southeast Turkey.

CONCLUSION

In this study, we found that the traditional practices were widely used among pregnant women and age, education, family type, and place of birth were the factors affecting the use of traditional practices. Some of these traditional practices exercised during the pregnancy might be harmful to health and have a negative impact on the lives of the mother and fetus. In this context, health care professionals awareness of the cultural practices of the society in which they provide health care for pregnant women is important in terms of identifying the traditional beliefs and practices that might have a negative impact on mother and fetus health. Therefore, there is a need for conducting continuous trainings and evaluation studies towards identification and reduction of misconceptions and harmful practices which include dietary preferences and nonfunctional beliefs and practices based on the desired gender by the health care professionals.

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